DESERT
PLANT LIFE

EUPHORBIA SUPERANS

H. Herre

THE SOUTHERNMOST REPRESENTATIVES OF THE CACTACEAE

Curt Backeberg

GERT CORNELIUS NEL

READING AND REFERENCE

Special International Number

Desert Plant Life Magazine

Official Publication AMERICAN SUCCULENT SOCIETIES
Chicago, Long Beach, Los Angeles

The oldest magazine in the English language devoted to the study of cacti and other succulents.

FEBRUARY, 1950

VOLUME 22 NUMBER 2

WHOLE NUMBER 175

DESERT. Published monthly except July and August by the Desert Magazine Publishing Company, 866 South Grand Avenue, Pasadena 2, California. Entered as second-class matter October 14, 1930, at the Post Office at Pasadena, California, under the act of March 3, 1879. Yearly subscription price $1.50. In California 5 cents tax additional. Foreign countries, including Canada and Mexico, $2.00. Single copies 25 cents.

Address all communications to Box 68, Pasadena, California

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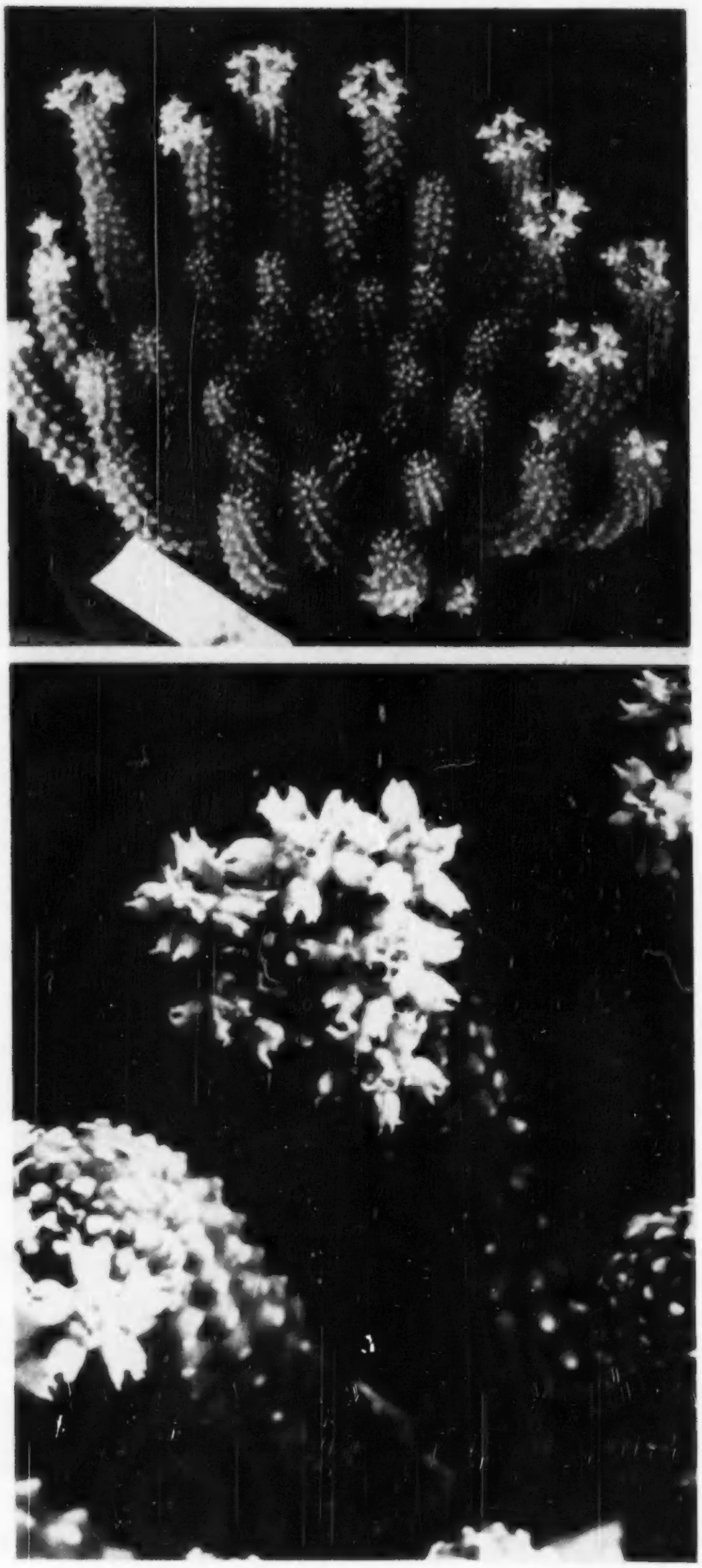
EUPHORBIA SUPERANS NEL SPEC. NOV.

Planta pumila, succulenta, aphylla, aspinosa; caulis brevis, carnosus, apice planus; rami numerosi, patentes, exteriores duplo longiores quam interiores, tuberculatai; areolae longitudinaliter hexagonae; cyathia 1-7 ad apicem ramorum; pedunculus brevis; bracteae oblongae, ciliatae, marginibus membranaceis; involucrum patellaeforme, intus glabrum, ectus pubescens; glandulae 5, luteae, ovato-oblongae, bifidae, lobi bidentati vel tridentati; ovarium sessile; stigma bifurcata.

Plant highly succulent, spineless, leafless, dwarf, 19 cm. in diameter and about 11 cm. high; main stem embedded in the soil, with a flat crown, 7 cm. in diameter, producing 3-5 series of cylindrical, tapering branches; the outer branches about 11 cm. long, 1.5 cm. in diameter at the base, 1 cm. in diameter at the apex, tuberculate, slightly curved inwards around a central flattened tuberculate area, 3-4 cm. in diameter at the top; the inner branches 3-5 cm. in length; tesselate tubercles arranged in about 10 vertical dows, each tubercle longitudinally hexagonal, 8 mm. long, 4 mm. broad, 2 mm. high, prominently obtuse—conical with a small white scar. Cyathia solitary, clustered in groups of 1-7, sometimes at the ends of the branches on peduncles arising in the axils of the tubercles. Peduncle deciduous, 2 mm. long, stout, glabrous, bearing 4 bracts; bracts scale-like, with membranous margin, ovate or oblong, ciliate, brownish. Involucrê cup-shaped, 7-10 mm. in diameter, with 5 glands and 5 transversely rectangular ciliate lobes; the lobes glabrous on the inside but pubescent on the back, 4 mm. long, 3-4 mm. broad. Glands yellow, ovate-oblong, shortly bifid with two processes denticulate at the apex, divided about a third with two diverging processes, each of which is again bidenticulate or sometimes tridenticulate, slightly revolute, glabrous. Staminate flowers intermingled with white woolly bracteoles which fill the involucre. Pistillate flowers with sessile ovary, thinly sprinkled with ascending or spreading hairs; styles 4-5 mm. long, united for about three-fourth of their length, the upper free portion 2 mm. long, consisting of three free arms; stigma very slightly bifurcate or bifurcate or bisulcate.

Type collected in Eastern Province, Cape Province, South Africa, by Mr. H. Rosenbrock in July, 1948. University of Stellenbosch Botanic Garden No. 7215.

Euphorbia superans resembles *E. inermis* but differs from the latter in the following respects: (I) the branches of *E. inermis* are more or less uniform in diameter, whereas those of the new species taper towards the apex; (II) the flowers of *E. inermis* are white, whereas those of *E. superans* are yellow; and (III) the style and stigma of *E. inermis* are woolly, whereas those of *E. superans* are glabrous. This last constitutes to my mind the main point of difference between the two species.



EUPHORBIA SUPERANS NEL. SPEC. NOV.

CYATHIA AT APEX OF BRANCHES OF
EUPHORBIA SUPERANS NEL. SPEC. NOV.

CURT BACKEBERG
Hamburg, Germany

The Southernmost Representatives of the Cactaceae

What is the southernmost genus of the *Cactaceae*? Through the kindness of Dr. C. Skottsberg, I was recently able to examine material collected by him in 1908 and bearing on this question.

The southernmost species of cactus is usually said to be *Opuntia australis* Weber. To this species Britton and Rose rightly referred *Pterocactus valentinii* Spegazzini; yet nevertheless they retained the species in *Opuntia*, (subgenus) *Tephrocactus*. I had living specimens of this species, with its peculiar flattened spines. The origin of the flower and the tuberous roots show that it belongs in *Pterocactus*. This species and two others closely related to it form the southernmost group of cacti:

1. *Pterocactus hickenii* Britt. & Rose. Type locality: Comodoro Rivadavia, southeastern Chubut, Argentina. I had a living specimen of this species from the type locality and illustrated it in flower in Blätter für Kateen forschúng, 1934—F.

2. *Pterocactus skottsbergii* Backeberg, comb. nov. (*Opuntia skottsbergii* Britt. & Rose, the Cactaceae 1:96. 1919.) Type locality: Rio Fenix, Territory of Santa Cruz, Argentina. I have examined Skottsberg's material from Lago Buenos Aires, Territory of Santa Cruz. This differs from *P. hickenii* in its more massive root and in its stronger and partly blackish central spines.

3. *Pterocactus australis* Backeberg, comb. nov. (*Opuntia australis* Weber, Dict. Hort. Bois. 896. 1898.) Type locality: between Santa Cruz River and the Strait of Magellan, Argentina. It is identical with *Pterocactus valentinii* Spegazzini. (See above). It is the only species hitherto known with flattened central spines.

These three species form a closely-knit natural group and differ from other bristled Pterocactus species in that they have thicker joints and regular spines. Common to all of them is the relatively low growth, the few highly succulent joints, the terminal sunken flowers, and the typical thick Pterocactus root.

Britton and Rose's drawing of *Opuntia skottsbergii*[a]) was made from the specimen shown in figure 2 left, left above. The shoot was believed to be a spiny ovary, and accordingly the sketch was slightly changed, as can be seen by comparison; but it was a regular joint, the flower with its invisible ovary inserted in the apex. An unquestionable photo of the ovary or fruit of *Pterocactus* is still lacking. Britton and Rose wrote "ovary nearly turgid" (*Pterocactus*), "ovary tuberculate and spiny like the stem, deeply umbilicate" (*P. fischeri*), and "ovary sunk in the apex" (*P. pumilus*). Only a sketch was given by Schu-

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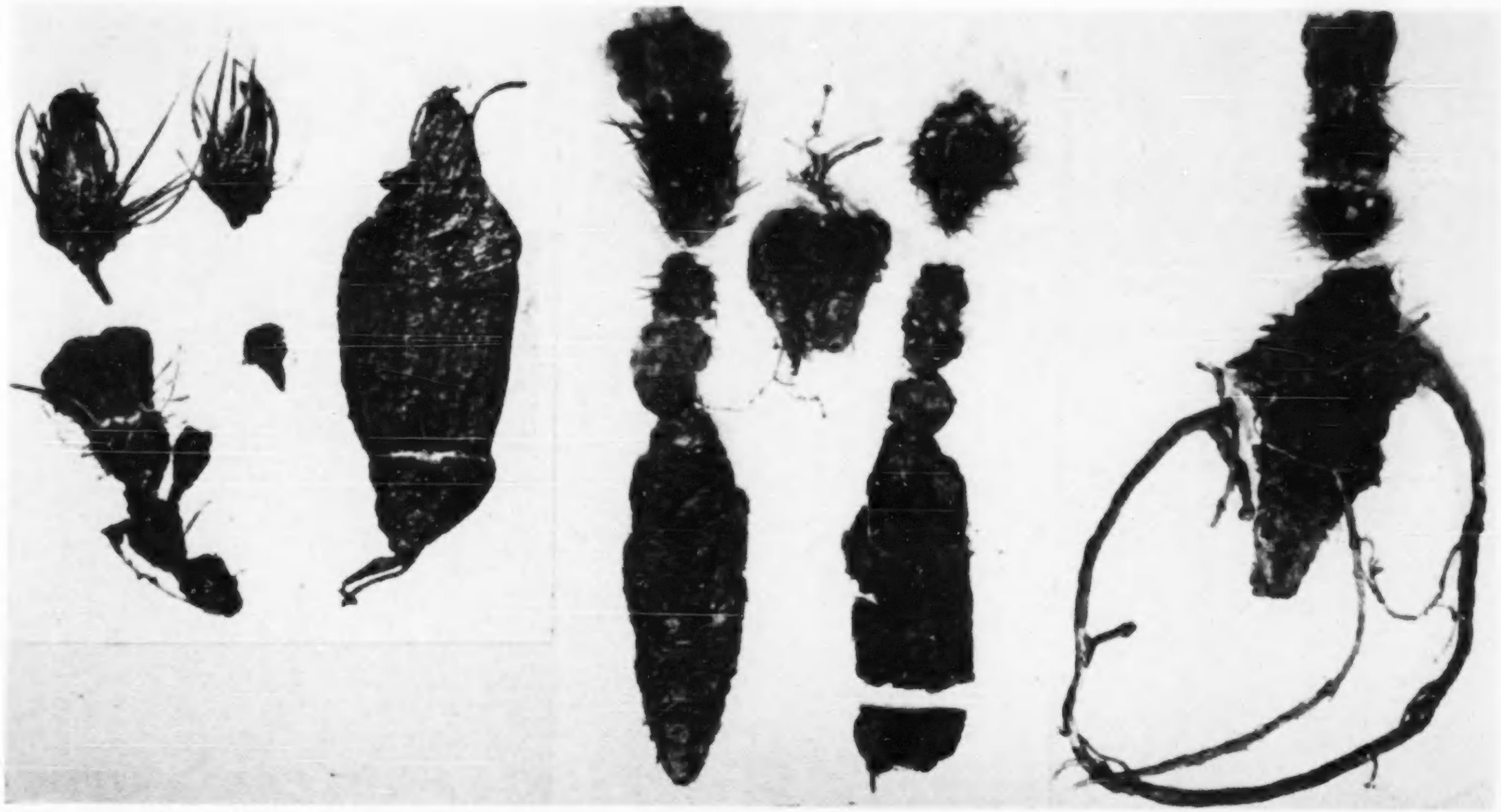
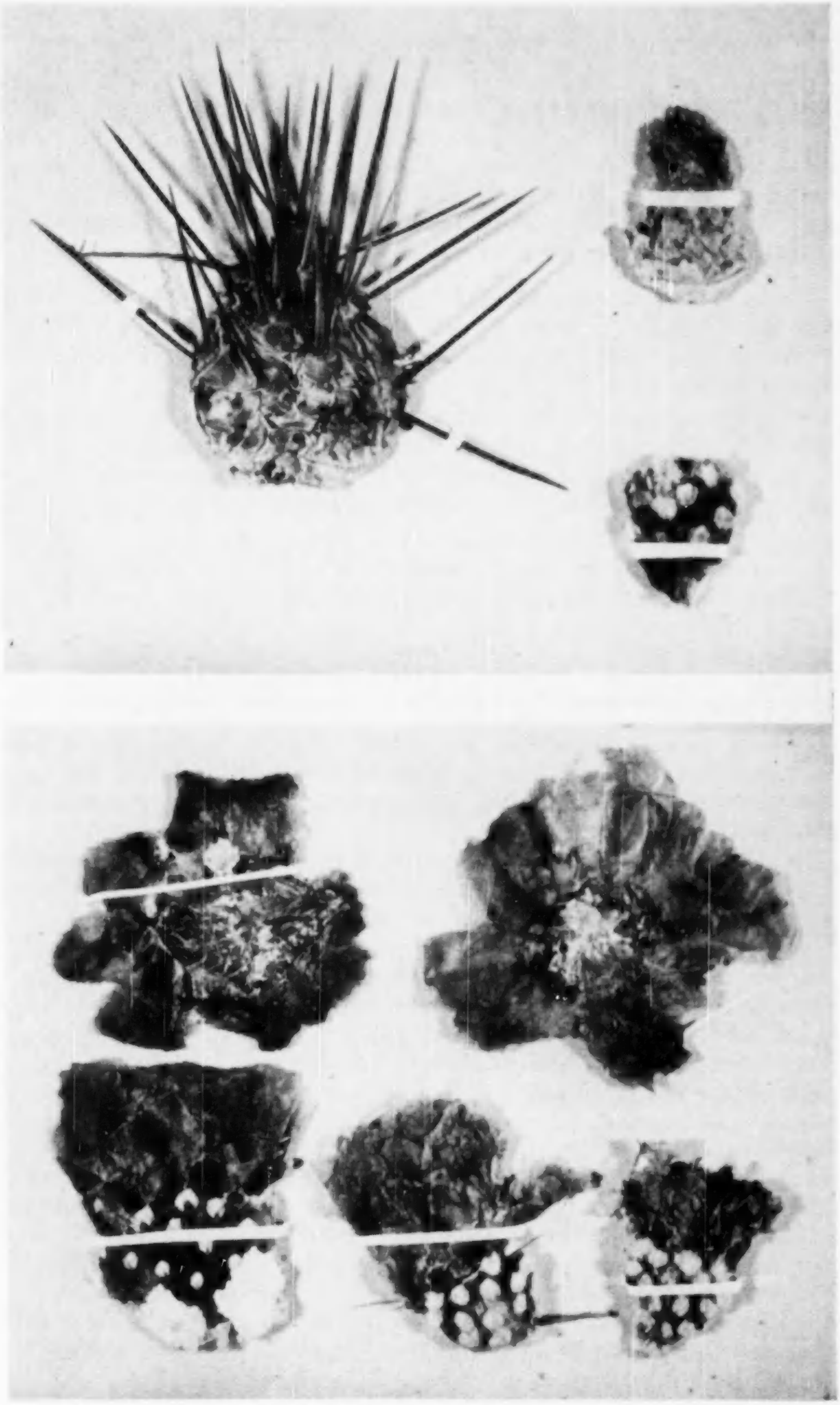
[a]) Britton and Rose. The Cactaceae. 1:97, fig. 114. 1919.



LEFT TO RIGHT: PTEROCACTUS AUSTRALIS (WEB.) BCKBG. (= VALENTINII SPEG.). PTEROC. SKOTTSBERGII (BR. & R.) BCKBG. DRAWING OF FLOWER. PTEROC. SKOTTSBERGII (BR. & R.) BCKBG. SHOWING STILL BETTER THE TERMINAL FLOWER.



UPPER: TEPHROCACTUS DARWINII. COLLECTED BY C. SKOTTSBERG, LAKE BUENOS AIRES, PATAGONIA.

LOWER: FLOWERS OF A SPECIES THE SAME OR VERY NEAR TO TEPHROC. DARWINII. COLLECTED BY N. J. AURELIUS.

☆ Reading and Reference ☆

III SUKKULENTENKUNDE. Jahrbücher der Schweizerischen Kakteen-Gesellschaft, October, 1949.

Appearing in this number is the first article authored by Dr. Werdermann of the Berlin Botanic Garden since the beginning of the war. It is mostly an account dealing with the restoration of the notable Dahlem institution.

It is not surprising to learn that in spite of the elaborate precautions taken to preserve species, photographs etc., in duplicate, even triplicate all came to naught, especially tragic being the destruction of the von Poellnitz types of which only a few remained.

Although removed in many respects from the outside world, hope and courage are by no means lacking for hands filled with seeds and plants are outstretched from abroad to resurrect the usefulness and prestige of former years.

Difficulties there are to be sure especially with heating and lack of glass but the foundations were solid and remained—at least till now. The comments on the value of succulents as herbarium specimens are interesting coming from so high an authority. If the specimens in the past lasted long enough to be identified that was sufficient, no matter if later they were consigned to the compost heap, as for instance the Salm-Dyck types.

The difficulty K. Schumann had with insufficient material and that not always definitely accurate, spurred him on to reorganize in the botanic museum a comprehensive collection of herbarium material which in addition would, with the living plants constitute a groundwork for his monograph "Gesamtbeschreibung." New methods of preparing specimens had been developed with success in liquids. Indeed certain collectors from Peru and Brazil sent their specimens already preserved in these fluids to the great satisfaction of the recipients.

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mann[b]); and shows a turgid shoot end in fruiting condition. He wrote in the generic description, "the supporting member merges directly into the ovary, which thus does not grow from an areole." Of the capsular part of the fruit of *P. kuntzei* he wrote, "Wall thin and brittle, circumscissile in the lower third."

Aside from *Pterocactus*, the southernmost cactus species is *Tephrocactus darwinii* (Henslow) Backeberg. Figure 3 shows a typical joint collected by C. Skottsberg (#674) at Lago Buenos Aires. Figure 4 shows the flower of the same species (or at least a very closely related one) collected by N. J. Aurelius (#78) at Camerones, Chubut, Argentina.

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[b]) K. Schuman. Gesamtbeschreibung der Kakteen. 1:753. 1903.

Gert Cornelius Nels 1885-1950

From Capetown comes word of the death, February 16, of Dr. Nel, head of the Department of Botany, at Stellenbosch University.

Gert Cornelius Nel was born in Greytown, Natal, took his degree at the old Victoria College in science, then went to Germany where he obtained his botany doctorate studying under Prof. A. Engler in Berlin, 1914.

The botanical garden at Stellenbosch, which has one of the best succulent collections in the world, was established at his instigation.

Dr. Nel was a pioneer in using Africaans, the native language as medium for instruction in botany in South African Universities. He supplied the first list of Africaans botanical terms to the Africaans dictionary, with which he was connected as a botany reviser. Recently a botanical dictionary in this language by him was published in Belgium.

As an educator he performed valuable services on the Joint Matriculation Board where he acted as Moderator for all the biology and botany examinations in South Africa. He wrote many textbooks on biology and published the first manual, Senior Certificate.

He was a world authority on succulents in general. As a collaborator with White and Sloane in their monographs "The Stapelieae" and "The Succulent Euphorbieae" the authors credit him (and Mr. Herre) "for constant assistance in many lines, including the descriptions of new species, geographical notes, many splendid gifts of plants and a wide selection of original photographs and permission to reproduce published photographs."

The list of plants he described is impressive; to illustrate, just one family the Stapelieae with which he worked must suffice: *Stapelia anobensis*, S. *Herrei*, S. *rubiginosa*, S. *tigrina*, S. *Pillansii* var. *fontinalis*; *Caralluma australis*, C. *candata* var. *Milleri*, C. *kalaharica*, C. *lutea* var. *lateritia*, C. *serpentina*, C. *umdansensis*, C. *Nebrownii* var. *discolor*; *Duvalia minuata*; *Hoodia husabensis*, H. *montana*; *Huerniopsis gibbosa*, H. *papillata*; *Trichocaulon columnare*, T. *kubusense*.

Many of these new species were his own discoveries later being introduced to cultivation.

Succulents named for him were *Stapelia Nelii* White and Sloane, *Euphorbia Nelii*, *Gasteria Neliana* von Poellnitz Mesembryanthemums and others.

His most important publication is his standard work on *Lithops*, one of the Vygie group of succulents.

His last work *Gibbaeum*, was completed a few weeks before his death, with all the photographs, drawings and colored plates in the same general style as *Lithops* though not as large as the species are fewer in number. It is written in English and expected to be of great value to scientists and amateurs alike as Dr. Nel undertook journeys in connection with his studies in their natural environments. "Key and all is in," states his co-worker, Mr. Herre, for 25 years.

His descriptions of two new plants appearing in DESERT PLANT LIFE, *Piaranthus Streyanus*, October and *Euphorbia superans* this issue are

deeply prized as an indication of his friendly attitude toward any earnest effort, however small, along lines to which his own life was dedicated with such shining accomplishment.

He is survived by his wife, one son and two daughters.

THE ENIGMA OF THE ORIGIN OF MONSTROSITIES AND CRISTATIONS IN SUCCULENT PLANTS, *by J. J. Verbeek Wolthuys, pp. 120, 6 x 10 inch, 27 illustrations. Stitched: f 3.25.*

We take much pleasure in announcing the publication of the first book on succulent plants to appear in Holland after the second World War, The Enigma of the Origin of Monstrosities and Cristations in Succulent Plants.

Mr. J. J. Verbeek Wolthuys, a former President of the Netherlands Society of Cactus and other Succulent Amateurs, was found willing to prepare a second edition of this little work, which in a clear way exposes the important question of cristation.

This second edition is almost twice the size of the first, the number of illustrations having been increased from 16 to 27. The fact that the first edition was sold out during, and in spite of, the second world war, may prove the interest shown by numerous people in the mysterious subject of this little work.

In the field of biology, as in other fields, a great many questions have remained unsolved, one of them being "How do those strange formations originate that they are termed cristations or other monstrosities?"

The author treats his subject in a popular way, describes the formations under review, relates what opinions have been put forth and refutes untenable explanations. He deals at length with attempts made to produce malformations artificially and comes to the conclusion that monstrosity is hereditary, so that it cannot manifest itself unless there is a hereditary disposition to do so.

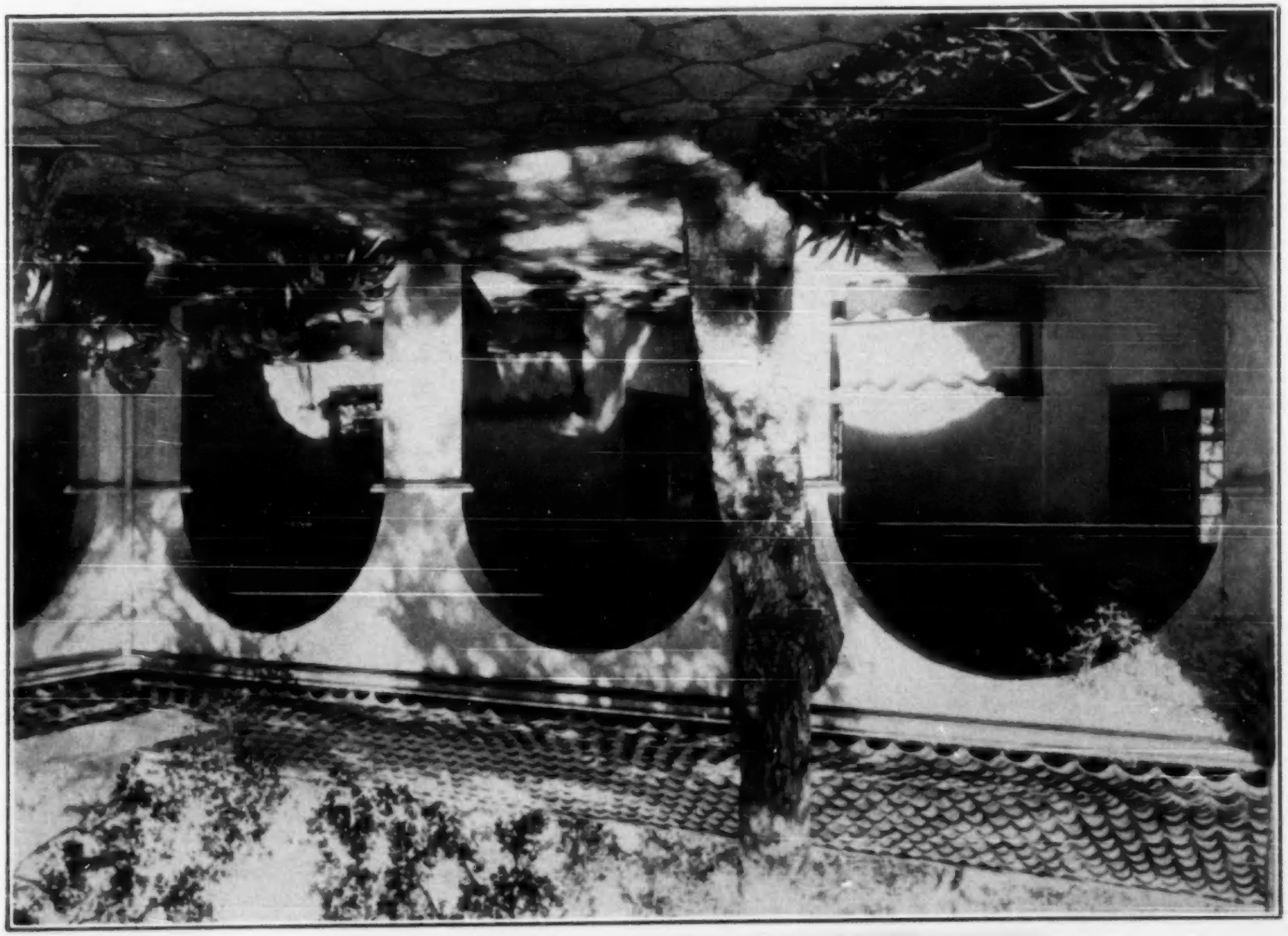
The fine illustrations serve as consistent evidence of the author's theory. As every succulent amateur should be informed thereof, it may be said that Mr. Verbeek Wolthuys' little book is an important, if not indispensable, contribution to the knowledge of cactuses and other succulents.

With the regularity of one of its own horological precision instruments there arrives from Switzerland, twelve times a year the mouthpiece of this country's 14 succulent societies, *Mitteilungen*, now in its ninth year.

Only four pages and no illustrations it is surprising how much information it gives out, botanical and cultureal, partly in German sometimes in French.

There are times when DPL is planned six months, even a year ahead. Other times it takes the bit, cavorts along and at the finish has gathered the makings for a unified whole. It has happened so this time: The "international special" number just happened.

A SUCCULENT GARDEN WITHIN MISSION WALLS.



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